



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
CINCINNATI, OHIO 45268

October 23, 2012

Tim Hoffman - Owner  
Dinsmore & Shohl LLP  
2003 Dryden Road  
Moraine, Ohio 45439

Jeff Pedro - Tenant  
SIM Trainer  
2031 Dryden Road  
Moraine, Ohio 45439

Dear Messrs. Hoffman and Pedro:

Re: Summary of Results from 2012 Vapor Intrusion Study  
South Dayton Dump and Landfill Site – SIM Trainer (Building 15)

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The United States Environmental Protection Agency (U.S. EPA) prepared this letter to inform you of the results of the sub-slab (space under your building floor) and indoor air samples collected from your property in 2012. Samples were collected in 2012 as part of the vapor intrusion (VI) investigation at the South Dayton Dump and Landfill (SDDL) Site. Conestoga-Rovers & Associates (CRA) collected these samples to determine if solvent- or petroleum-related compounds (see Table 1) are present in soil vapor beneath the foundations and in the indoor air of your property at concentrations which exceed sub-slab and/or indoor air VI screening levels, as established by the Ohio Department of Health (ODH).

VI is the migration of volatile chemicals from the subsurface into overlying buildings. VI is a potential concern at any building, existing or planned, located near soil, groundwater, or soil vapor containing solvent- or petroleum-related compounds that may volatilize or chemicals that are combustible.

The samples were collected by CRA and submitted to TestAmerica Inc. CRA received and validated the results of the laboratory analysis and submitted those results to the U.S. EPA.

The ODH has recommended the screening levels for sub-slab and indoor air samples. The screening levels represent concentrations of a substance that are unlikely to cause harmful (adverse) health effects in exposed people. Detections in indoor air below these levels are not of a health concern. A summary of the analytical results and comparisons to the ODH screening levels can be found in Table 1.

Compounds detected at concentrations greater than the ODH screening levels from sub-slab and indoor air samples are presented below. All of the air samples are measured in units called parts per billion by volume (ppbv). A map identifying each sample location within your building(s) can be found in **Attachment A**.

**TABLE 1**  
**SUMMARY OF 2012 SAMPLING RESULTS**  
**FOR**  
**SIM TRAINER**

Building / Probe	Sampling Date	Sample Type	Parameter	ODH Screening Level (ppbv)	Detected Concentration (ppbv)
Building 15 Probe A	1-12-12	Sub-slab	TCE	20	400
Building 15 Probe A	3-13-12	Sub-slab	TCE	20	390
Building 15 Probe A	3-13-12	Indoor air	TCE	2	5.2
Building 15 Probe B	1-12-12	Sub-slab	TCE	20	690
Building 15 Probe B	3-13-12	Sub-slab	TCE	20	680
Building 15 Probe C	1-12-12	Sub-slab	Benzene cis-1,2-DCE TCE Vinyl Chloride Methane (Field)	20 370 20 20 0.5%	230 7,400 95 1,100 1.1 / 1.2%
Building 15 Probe C	3-13-12	Sub-slab	Benzene cis-1,2-DCE TCE Vinyl Chloride Methane (Field) Methane (Lab)	20 370 20 20 0.5% 0.5%	320 10,000 120 1,700 0.9 / 0.8% 0.97%
Building 15 Probe C	3-13-12	Indoor air	PCE <sup>[A]</sup>	25	120

Notes:

1.1 / 1.2 – Result / Duplicate Result

J – Estimated Quantity

DCE – Dichloroethene

PCE – Tetrachloroethene

TCE – Trichloroethene

<sup>[A]</sup> – This compound was not detected in the adjacent sub-slab soil vapor sample, indicating that the indoor air concentration is not due to vapor intrusion

***What do these results mean?***

On March 13, 2012, the chemical trichloroethene (TCE) was observed in a sub-slab sample collected in Building 15 at a concentration as high as 680 ppbv. This result

exceeds the ODH TCE sub-slab screening level of 20 ppbv. The chemical TCE was also observed in an indoor air sample at a concentration of 5.2 ppbv. This result exceeds the ODH TCE indoor air screening level of 2 ppbv. These results confirm that vapor intrusion is occurring in Building 15.

Based on the TCE laboratory results of the sub-slab and indoor air samples collected from Building 15, the U.S. EPA and ODH conclude that there is a potential public health threat posed by TCE vapor intrusion. U.S. EPA will be contacting you in the near future to discuss mitigation options for your property as part of the SDDL Site removal action.

Although tetrachloroethene (PCE) was detected on March 13, 2012 at a concentration greater than the ODH indoor air screening level, PCE was not detected in the co-located sub-slab soil vapor sample, indicating that the indoor air PCE concentration is not due to vapor intrusion.

The U.S. EPA and ODH would like to take this opportunity to thank you for participating in this important investigation.

If you have health-related questions, please contact Dr. Bob Frey at the ODH at 614-466-1069. If you have questions related to the sampling or on-going site investigation, please visit our website at [www.epaosc.org/southdaytondumpsite](http://www.epaosc.org/southdaytondumpsite) or contact me at 513-569-7539.

Sincerely,



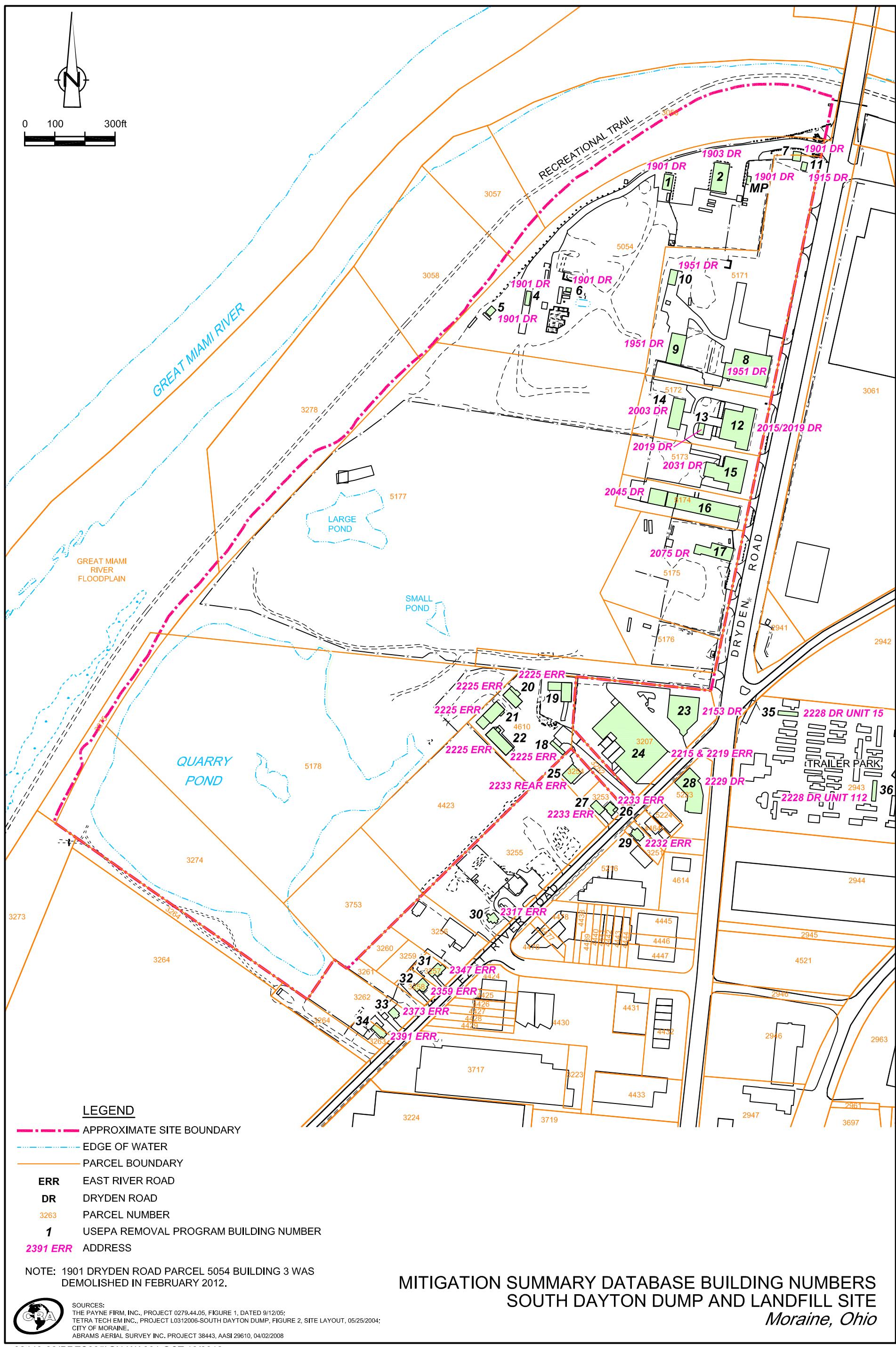
Steven L. Renninger  
On-Scene Coordinator  
U.S. EPA Region 5

Attachments:

- A – Sample Location Map
- B – Validated Analytical Results

cc: Leslie Patterson - U.S. EPA Remedial Program Manager  
Laura Marshall - Ohio EPA, Site Coordinator  
Adam Loney, CRA  
Tina Ortiz – Mark Fornes Realty, Inc.  
Site File

**ATTACHMENT A**  
**SAMPLE LOCATION MAP**





SOURCES:  
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;  
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;  
CITY OF MORAINE.  
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008

**ATTACHMENT B**

**VALIDATED ANALYTICAL RESULTS**

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS**  
**BUILDING 15 - 2031 DRYDEN ROAD**  
**VAPOR INTRUSION INVESTIGATION**  
**SOUTH DAYTON DUMP AND LANDFILL SITE**  
**MORAINE, OHIO**

Sample Location:	Building 15, Probe A 2031 Dryden Road 1/12/2012			Building 15, Probe A 2031 Dryden Road 3/13/2012			Building 15, Probe A 2031 Dryden Road 8/7/2012			Building 15, Probe B 2031 Dryden Road 1/12/2012			Building 15, Probe B 2031 Dryden Road 3/13/2012			Building 15, Probe C 2031 Dryden Road 8/7/2012		
Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)	ODH Sub-Slab Action Levels (Non-residential)	a	b	a	b	a	b	a	b	a	b	a	b	a	b	
<b>Volatile Organic Compounds</b>																		
1,1,1-Trichloroethane	ppb	NC	NC	0.60 U	1.1 U	-	-	1.1 U	1.4 U	-	-	R	R	-	-	-	-	
1,1,2,2-Tetrachloroethane	ppb	NC	NC	0.68 U	2.2 U	-	-	1.2 U	2.9 U	-	-	R	R	-	-	-	-	
1,1,2-Trichloroethane	ppb	NC	NC	0.32 U	1.9 U	-	-	0.58 U	2.5 U	-	-	R	R	-	-	-	-	
1,1-Dichloroethane	ppb	160	1600	0.60 U	0.93 U	-	-	1.1 U	1.2 U	-	-	R	R	-	-	-	-	
1,1-Dichloroethene	ppb	NC	NC	0.51 U	1.1 U	-	-	0.91 U	1.5 U	-	-	R	R	-	-	-	-	
1,2,4-Trichlorobenzene	ppb	NC	NC	0.86 U	3.5 U	-	-	1.5 U	4.6 U	-	-	R	R	-	-	-	-	
1,2,4-Trimethylbenzene	ppb	NC	NC	0.89 U	2.2 U	-	-	1.6 U	3.0 U	-	-	R	R	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	ppb	NC	NC	0.31 U	1.6 U	-	-	0.55 U	2.1 U	-	-	R	R	-	-	-	-	
1,2-Dichlorobenzene	ppb	NC	NC	0.82 U	2.5 U	-	-	1.5 U	3.3 U	-	-	R	R	-	-	-	-	
1,2-Dichloroethane	ppb	NC	NC	0.53 U	1.7 U	-	-	0.94 U	2.2 U	-	-	R	R	-	-	-	-	
1,2-Dichloroethene (total)	ppb	NC	NC	2.7 J	-	-	-	130	-	-	-	R	R	-	-	-	-	
1,2-Dichloropropane	ppb	NC	NC	0.24 U	1.9 U	-	-	0.43 U	2.4 U	-	-	R	R	-	-	-	-	
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	0.55 U	1.1 U	-	-	0.97 U	1.5 U	-	-	R	R	-	-	-	-	
1,3,5-Trimethylbenzene	ppb	NC	NC	0.87 U	2.3 U	-	-	1.6 U	3.1 U	-	-	R	R	-	-	-	-	
1,3-Butadiene	ppb	NC	NC	0.17 U	2.3 U	-	-	0.30 U	3.0 U	-	-	R	R	-	-	-	-	
1,3-Dichlorobenzene	ppb	NC	NC	0.75 U	2.3 U	-	-	1.3 U	3.1 U	-	-	R	R	-	-	-	-	
1,4-Dichlorobenzene	ppb	NC	NC	0.75 U	2.3 UJ	-	-	1.3 U	3.0 UJ	-	-	R	R	-	-	-	-	
1,4-Dioxane	ppb	NC	NC	1.5 U	2.8 U	-	-	2.7 U	3.8 U	-	-	R	R	-	-	-	-	
2,2,4-Trimethylpentane	ppb	NC	NC	0.62 U	1.4 U	-	-	1.1 U	7.9 J	-	-	R	R	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	0.29 U	7.1 U	-	-	0.52 U	9.4 U	-	-	R	R	-	-	-	-	
2-Chlorotoluene	ppb	NC	NC	0.80 U	2.2 U	-	-	1.4 U	3.0 U	-	-	R	R	-	-	-	-	
2-Hexanone	ppb	NC	NC	0.67 U	2.1 U	-	-	1.2 U	2.7 U	-	-	R	R	-	-	-	-	
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	0.80 U	2.3 U	-	-	1.4 U	3.0 U	-	-	R	R	-	-	-	-	
4-Ethyl toluene	ppb	NC	NC	0.79 U	2.3 U	-	-	1.4 U	3.1 U	-	-	R	R	-	-	-	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppb	NC	NC	0.44 U	1.6 U	-	-	0.79 U	2.1 U	-	-	R	R	-	-	-	-	
Acetone	ppb	NC	NC	1.5 J	50 U	-	-	1.4 U	66 U	-	-	R	R	-	-	-	-	
Allyl chloride	ppb	NC	NC	0.32 U	1.7 U	-	-	0.58 U	2.3 U	-	-	R	R	-	-	-	-	
Benzene	ppb	20	200	0.31 U	2.0 U	-	-	0.55 U	2.6 U	-	-	R	R	-	-	-	-	
Benzyl chloride	ppb	NC	NC	0.79 UJ	2.8 U	-	-	1.4 UJ	3.7 U	-	-	R	R	-	-	-	-	
Bromodichloromethane	ppb	NC	NC	0.48 U	1.6 U	-	-	0.85 U	2.1 U	-	-	R	R	-	-	-	-	
Bromoform	ppb	NC	NC	0.32 U	1.7 U	-	-	0.58 UJ	2.3 U	-	-	R	R	-	-	-	-	
Bromomethane (Methyl bromide)	ppb	NC	NC	0.21 U	1.1 U	-	-	0.36 U	1.5 U	-	-	R	R	-	-	-	-	
Butane	ppb	NC	NC	2.2 J	2.3 UJ	-	-	0.33 U	3.0 UJ	-	-	R	R	-	-	-	-	
Carbon disulfide	ppb	NC	NC	1.1 U	1.1 U	-	-	2.0 U	1.5 U	-	-	R	R	-	-	-	-	
Carbon tetrachloride	ppb	NC	NC	0.56 U	1.4 U	-	-	1.0 U	1.8 U	-	-	R	R	-	-	-	-	
Chlorobenzene	ppb	NC	NC	0.34 U	1.7 U	-	-	0.61 U	2.3 U	-	-	R	R	-	-	-	-	
Chlorodifluoromethane	ppb	NC	NC	0.58 U	3.4 J	-	-	1.0 U	2.7 J	-	-	R	R	-	-	-	-	
Chloroethane	ppb	NC	NC	0.27 U	1.2 U	-	-	0.49 U	1.6 U	-	-	R	R	-	-	-	-	

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS**  
**BUILDING 15 - 2031 DRYDEN ROAD**  
**VAPOR INTRUSION INVESTIGATION**  
**SOUTH DAYTON DUMP AND LANDFILL SITE**  
**MORAINE, OHIO**

Sample Location:  
 Sample Location:  
 Sample Date:

Building 15, Probe A  
 2031 Dryden Road  
 1/12/2012

Building 15, Probe A  
 2031 Dryden Road  
 3/13/2012

Building 15, Probe A  
 2031 Dryden Road  
 8/7/2012

Building 15, Probe B  
 2031 Dryden Road  
 1/12/2012

Building 15, Probe B  
 2031 Dryden Road  
 3/13/2012

Building 15, Probe B  
 2031 Dryden Road  
 8/7/2012

Building 15, Probe C  
 2031 Dryden Road  
 1/12/2012

Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)	ODH Sub-Slab Action Levels (Non-residential)	a		b		c
				Building 15, Probe A 2031 Dryden Road 1/12/2012	Building 15, Probe A 2031 Dryden Road 3/13/2012	Building 15, Probe A 2031 Dryden Road 8/7/2012	Building 15, Probe B 2031 Dryden Road 1/12/2012	
Chloroform (Trichloromethane)	ppb	800	8000	0.53 U	1.4 U	-	8.5	12
Chloromethane (Methyl chloride)	ppb	NC	NC	0.22 U	5.7 U	-	0.40 U	7.5 U
cis-1,2-Dichloroethene	ppb	370	3700	2.7 J	2.1 U	-	86	130
cis-1,3-Dichloropropene	ppb	NC	NC	0.27 U	2.6 U	-	0.49 U	3.5 U
Cyclohexane	ppb	NC	NC	0.67 U	1.4 U	-	1.2 U	1.9 U
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.82 U	2.0 U	-	1.5 U	2.7 U
Dibromochloromethane	ppb	NC	NC	0.36 U	1.5 U	-	0.64 U	2.0 U
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	0.65 U	2.4 U	-	1.2 U	3.2 U
Ethylbenzene	ppb	2500	25000	0.38 U	2.4 U	-	0.67 U	3.2 U
Hexachlorobutadiene	ppb	NC	NC	1.1 U	2.8 U	-	2.0 U	3.7 U
Hexane	ppb	NC	NC	0.52 J	1.1 U	-	0.79 U	1.9 J
Isopropyl alcohol	ppb	NC	NC	0.63 U	3.9 J	-	1.1 U	4.6 J
Isopropyl benzene	ppb	NC	NC	0.53 U	2.1 U	-	0.94 U	2.8 U
m&p-Xylenes	ppb	2000	20000	0.82 U	4.3 U	-	1.5 U	5.6 U
Methyl methacrylate	ppb	NC	NC	0.22 U	2.8 U	-	0.40 U	3.7 U
Methyl tert butyl ether (MTBE)	ppb	NC	NC	0.27 U	6.1 U	-	0.49 U	8.0 U
Methylene chloride	ppb	NC	NC	0.84 J	4.2 J	-	1.4 U	7.2 J
Naphthalene	ppb	29	NC	1.5 U	3.2 U	-	2.6 U	4.2 U
N-Butylbenzene	ppb	NC	NC	0.94 U	1.6 U	-	1.7 U	2.2 U
N-Decane	ppb	NC	NC	-	-	-	-	-
N-Dodecane	ppb	NC	NC	-	-	-	-	-
N-Heptane	ppb	NC	NC	1.3 J	1.7 U	-	0.30 U	2.2 U
Nonane	ppb	NC	NC	-	-	-	-	-
N-Propylbenzene	ppb	NC	NC	0.86 U	2.0 U	-	1.5 U	2.6 U
N-Undecane	ppb	NC	NC	-	-	-	-	-
Octane	ppb	NC	NC	-	-	-	-	-
o-Xylene	ppb	2000	20000	0.38 U	2.2 U	-	0.67 U	2.9 U
Pentane	ppb	NC	NC	-	-	-	-	-
Styrene	ppb	NC	NC	0.51 U	2.1 U	-	0.91 U	2.7 U
tert-Butyl alcohol	ppb	NC	NC	1.2 U	1.4 U	-	2.2 U	1.8 U
tert-Butylbenzene	ppb	NC	NC	0.80 U	2.3 U	-	1.4 U	3.1 U
Tetrachloroethene	ppb	250	2500	7.6	7.1	-	1.3 J	2.5 J
Tetrahydrofuran	ppb	NC	NC	0.31 U	2.2 U	-	0.55 U	3.0 U
Toluene	ppb	NC	NC	1.4 J	1.9 U	-	0.55 U	2.7 J
trans-1,2-Dichloroethene	ppb	NC	NC	0.55 U	1.8 U	-	43	59
trans-1,3-Dichloropropene	ppb	NC	NC	0.34 U	1.7 U	-	0.61 U	2.3 U
Trichloroethene	ppb	20	200	400 <sup>a,b</sup>	390 <sup>a,b</sup>	-	690 <sup>a,b</sup>	680 <sup>a,b</sup>
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	0.58 U	0.85 U	-	1.0 U	1.1 U
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.17 U	1.1 U	-	0.30 U	1.5 U
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.32 U	1.2 U	-	0.58 U	1.6 U
Vinyl chloride	ppb	20	200	0.50 U	2.5 U	-	0.88 U	3.3 U
Xylenes (total)	ppb	NC	NC	0.38 U	-	-	0.67 U	-

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS**  
**BUILDING 15 - 2031 DRYDEN ROAD**  
**VAPOR INTRUSION INVESTIGATION**  
**SOUTH DAYTON DUMP AND LANDFILL SITE**  
**MORAINE, OHIO**

Sample Location:	Building 15, Probe A 2031 Dryden Road 1/12/2012	Building 15, Probe A 2031 Dryden Road 3/13/2012	Building 15, Probe A 2031 Dryden Road 8/7/2012	Building 15, Probe B 2031 Dryden Road 1/12/2012	Building 15, Probe B 2031 Dryden Road 3/13/2012	Building 15, Probe B 2031 Dryden Road 8/7/2012	Building 15, Probe C 2031 Dryden Road 1/12/2012
Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)	ODH Sub-Slab Action Levels (Non-residential)	a	b		
<b>Tentatively Identified Compounds (TIC) Volatiles</b>							
(1alpha,2beta,4beta)-1,2,4-Trimethyl-cyclohexane A	ppb	NC	NC	-	-	-	-
1-Ethyl-4-methyl cyclohexane A	ppb	NC	NC	-	-	-	-
2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene A	ppb	NC	NC	-	-	-	-
2,6-Dimethylnonane A	ppb	NC	NC	-	-	-	-
2,6-Dimethyloctane A	ppb	NC	NC	-	-	-	-
Cyclohexane, 1-ethyl-2-methyl-, trans- A	ppb	NC	NC	-	-	-	-
Cyclohexane, methyl A	ppb	NC	NC	-	-	-	-
Heptane, 2,6-dimethyl- A	ppb	NC	NC	-	-	-	-
Propane A	ppb	NC	NC	-	-	-	-
trans-1,2-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-
trans-1,3-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-
Unknown A	ppb	NC	NC	-	-	-	-
Unknown B	ppb	NC	NC	-	-	-	-
Unknown C	ppb	NC	NC	-	-	-	-
Unknown D	ppb	NC	NC	-	-	-	-
Unknown E	ppb	NC	NC	-	-	-	-
Unknown F	ppb	NC	NC	-	-	-	-
Unknown G	ppb	NC	NC	-	-	-	-
Unknown H	ppb	NC	NC	-	-	-	-
Unknown I	ppb	NC	NC	-	-	-	-
Unknown J	ppb	NC	NC	-	-	-	-
Unknown K	ppb	NC	NC	-	-	-	-
Unknown L	ppb	NC	NC	-	-	-	-
Unknown M	ppb	NC	NC	-	-	-	-
Unknown N	ppb	NC	NC	-	-	-	-
Unknown O	ppb	NC	NC	-	-	-	-
<b>Gases</b>							
Methane	%	0.5	0.5	-	-	0.058 U	-
<b>Field Parameter</b>							
Methane, field (unfiltered)	%	0.5	0.5	0.0 / 0.0	-	0.1 / 0.1	-
Methane, field (filtered)	%	0.5	0.5	-	0.0 / 0.0	0.0 / 0.0	0

Notes:

J - The chemical was detected by the laboratory, the listed value is an approximate concentration

JN or NJ - The listed value of the tentatively identified compound is an approximate concentration

R - The presence or absence of the chemical cannot be verified.

U - The chemical was not detected in the sample at the detection limit shown.

UJ - The chemical was not detected in the sample at the approximate detection limit shown.

NC - No criterion

-- Not applicable.

Concentration was greater than applicable criteria.

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS  
BUILDING 15 - 2031 DRYDEN ROAD  
VAPOR INTRUSION INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAINE, OHIO**

<i>Sample Location:</i>		<i>Building 15, Probe C 2031 Dryden Road 1/12/2012 Duplicate</i>	<i>Building 15, Probe C 2031 Dryden Road 3/13/2012</i>	<i>Building 15, Probe C 2031 Dryden Road 3/13/2012</i>
<i>Parameter</i>	<i>ODH Sub-Slab Screening Levels (Non-residential)</i>	<i>ODH Sub-Slab Action Levels (Non-residential)</i>	<i>a</i>	<i>b</i>
<b>Volatile Organic Compounds</b>				
1,1,1-Trichloroethane	ppb	NC	NC	8.8 U
1,1,2,2-Tetrachloroethane	ppb	NC	NC	10 U
1,1,2-Trichloroethane	ppb	NC	NC	4.8 U
1,1-Dichloroethane	ppb	160	1600	8.8 U
1,1-Dichloroethene	ppb	NC	NC	29 J
1,2,4-Trichlorobenzene	ppb	NC	NC	13 U
1,2,4-Trimethylbenzene	ppb	NC	NC	600
1,2-Dibromoethane (Ethylene dibromide)	ppb	NC	NC	4.5 U
1,2-Dichlorobenzene	ppb	NC	NC	12 U
1,2-Dichloroethane	ppb	NC	NC	7.8 U
1,2-Dichloroethene (total)	ppb	NC	NC	7600
1,2-Dichloropropane	ppb	NC	NC	3.5 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	8.0 U
1,3,5-Trimethylbenzene	ppb	NC	NC	480
1,3-Butadiene	ppb	NC	NC	2.5 U
1,3-Dichlorobenzene	ppb	NC	NC	11 U
1,4-Dichlorobenzene	ppb	NC	NC	11 U
1,4-Dioxane	ppb	NC	NC	22 U
2,2,4-Trimethylpentane	ppb	NC	NC	9.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	4.3 U
2-Chlorotoluene	ppb	NC	NC	12 U
2-Hexanone	ppb	NC	NC	9.8 U
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	110
4-Ethyl toluene	ppb	NC	NC	110
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppb	NC	NC	6.5 U
Acetone	ppb	NC	NC	72 J
Allyl chloride	ppb	NC	NC	4.8 U
Benzene	ppb	20	200	<b>230<sup>ab</sup></b>
Benzyl chloride	ppb	NC	NC	<b>320<sup>ab</sup></b>
Bromodichloromethane	ppb	NC	NC	12 UJ
Bromoform	ppb	NC	NC	7.0 U
Bromomethane (Methyl bromide)	ppb	NC	NC	4.8 U
Butane	ppb	NC	NC	3.0 U
Carbon disulfide	ppb	NC	NC	6400
Carbon tetrachloride	ppb	NC	NC	38 J
Chlorobenzene	ppb	NC	NC	8.3 U
Chlorodifluoromethane	ppb	NC	NC	520
Chloroethane	ppb	NC	NC	8.5 U

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS  
BUILDING 15 - 2031 DRYDEN ROAD  
VAPOR INTRUSION INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAINE, OHIO**

<i>Sample Location:</i>		<i>ODH Sub-Slab Screening Levels</i> <i>(Non-residential)</i>	<i>ODH Sub-Slab Action Levels</i> <i>(Non-residential)</i>	<i>Building 15, Probe C 2031 Dryden Road 1/12/2012 Duplicate</i>	<i>Building 15, Probe C 2031 Dryden Road 3/13/2012</i>	<i>Building 15, Probe C 2031 Dryden Road 3/13/2012</i>
<i>Parameter</i>		<i>a</i>	<i>b</i>			
Chloroform (Trichloromethane)	ppb	800	8000	7.8 U	20 U	-
Chloromethane (Methyl chloride)	ppb	NC	NC	3.3 U	84 U	-
cis-1,2-Dichloroethene	ppb	370	3700	<b>7400<sup>ab</sup></b>	<b>10000<sup>ab</sup></b>	-
cis-1,3-Dichloropropene	ppb	NC	NC	4.0 U	39 U	-
Cyclohexane	ppb	NC	NC	1900	2900	-
Cymene (p-Isopropyltoluene)	ppb	NC	NC	63	82 J	-
Dibromochloromethane	ppb	NC	NC	5.3 U	22 U	-
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	9.5 U	36 U	-
Ethylbenzene	ppb	2500	25000	320	540	-
Hexachlorobutadiene	ppb	NC	NC	16 U	41 U	-
Hexane	ppb	NC	NC	1300	1900	-
Isopropyl alcohol	ppb	NC	NC	9.3 U	37 J	-
Isopropyl benzene	ppb	NC	NC	140	220	-
m&p-Xylenes	ppb	2000	20000	820	1300	-
Methyl methacrylate	ppb	NC	NC	3.3 U	41 U	-
Methyl tert butyl ether (MTBE)	ppb	NC	NC	4.0 U	89 U	-
Methylene chloride	ppb	NC	NC	17 J	220 J	-
Naphthalene	ppb	29	NC	22 U	<b>47 U<sup>a</sup></b>	-
N-Butylbenzene	ppb	NC	NC	27 J	110 J	-
N-Decane	ppb	NC	NC	-	1200	-
N-Dodecane	ppb	NC	NC	-	67 J	-
N-Heptane	ppb	NC	NC	3600	4900	-
Nonane	ppb	NC	NC	-	2900	-
N-Propylbenzene	ppb	NC	NC	120	200 J	-
N-Undecane	ppb	NC	NC	-	0.062 U	-
Octane	ppb	NC	NC	-	2400	-
o-Xylene	ppb	2000	20000	710	1100	-
Pentane	ppb	NC	NC	-	3100	-
Styrene	ppb	NC	NC	7.5 U	30 U	-
tert-Butyl alcohol	ppb	NC	NC	18 U	95 J	-
tert-Butylbenzene	ppb	NC	NC	12 J	35 U	-
Tetrachloroethene	ppb	250	2500	2.8 U	21 U	-
Tetrahydrofuran	ppb	NC	NC	4.5 U	33 U	-
Toluene	ppb	NC	NC	3500	5200	-
trans-1,2-Dichloroethene	ppb	NC	NC	150	230	-
trans-1,3-Dichloropropene	ppb	NC	NC	5.0 U	25 U	-
Trichloroethene	ppb	20	200	<b>95<sup>a</sup></b>	<b>120<sup>a</sup></b>	-
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	8.5 U	13 U	-
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	2.5 U	16 U	-
Vinyl bromide (Bromoethene)	ppb	NC	NC	4.8 U	18 U	-
Vinyl chloride	ppb	20	200	<b>1100<sup>ab</sup></b>	<b>1700<sup>ab</sup></b>	-
Xylenes (total)	ppb	NC	NC	1500	-	-

TABLE 1

**SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS  
BUILDING 15 - 2031 DRYDEN ROAD  
VAPOR INTRUSION INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAINE, OHIO**

<i>Sample Location:</i>		<i>Building 15, Probe C</i>	<i>Building 15, Probe C</i>	<i>Building 15, Probe C</i>
<i>Sample Location:</i>		<i>2031 Dryden Road</i>	<i>2031 Dryden Road</i>	<i>2031 Dryden Road</i>
<i>Sample Date:</i>		<i>1/12/2012</i>	<i>3/13/2012</i>	<i>3/13/2012</i>
<i>Parameter</i>	<i>ODH Sub-Slab Screening Levels (Non-residential)</i>	<i>ODH Sub-Slab Action Levels (Non-residential)</i>		
		<i>a</i>	<i>b</i>	
<b>Tentatively Identified Compounds (TIC) Volatiles</b>				
(1alpha,2beta,4beta)-1,2,4-Trimethyl-cyclohexane A	ppb	NC	NC	-
1-Ethyl-4-methyl cyclohexane A	ppb	NC	NC	-
2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene A	ppb	NC	NC	-
2,6-Dimethylnonane A	ppb	NC	NC	-
2,6-Dimethyloctane A	ppb	NC	NC	-
Cyclohexane, 1-ethyl-2-methyl-, trans- A	ppb	NC	NC	-
Cyclohexane, methyl A	ppb	NC	NC	-
Heptane, 2,6-dimethyl- A	ppb	NC	NC	-
Propane A	ppb	NC	NC	-
trans-1,2-Dimethylcyclohexane A	ppb	NC	NC	-
trans-1,3-Dimethylcyclohexane A	ppb	NC	NC	-
Unknown A	ppb	NC	NC	-
Unknown B	ppb	NC	NC	-
Unknown C	ppb	NC	NC	-
Unknown D	ppb	NC	NC	-
Unknown E	ppb	NC	NC	-
Unknown F	ppb	NC	NC	-
Unknown G	ppb	NC	NC	-
Unknown H	ppb	NC	NC	-
Unknown I	ppb	NC	NC	-
Unknown J	ppb	NC	NC	-
Unknown K	ppb	NC	NC	-
Unknown L	ppb	NC	NC	-
Unknown M	ppb	NC	NC	-
Unknown N	ppb	NC	NC	-
Unknown O	ppb	NC	NC	-
<b>Gases</b>				
Methane	%	0.5	0.5	-
				<b>0.97<sup>ab</sup></b>
<b>Field Parameter</b>				
Methane, field (unfiltered)	%	0.5	0.5	<b>1.2<sup>ab</sup> / 1.1<sup>ab</sup></b>
Methane, field (filtered)	%	0.5	0.5	-
			<b>0.9<sup>ab</sup> / 0.8<sup>ab</sup></b>	<b>0.8<sup>ab</sup> / 0.9<sup>ab</sup></b>

Notes:

J - The chemical was detected by the laboratory, the listed value is an approximate concentration

JN or NJ - The listed value of the tentatively identified compound is an approximate concentration

R - The presence or absence of the chemical cannot be verified

U - The chemical was not detected in the sample at the detection limit shown.

UJ - The chemical was not detected in the sample at the approximate detection limit shown.

NC - No criterion

-- Not applicable.

Concentration was greater than applicable criteria.

TABLE 2

**SUMMARY OF INDOOR AIR ANALYTICAL RESULTS  
BUILDING 15 - 2031 DRYDEN ROAD  
VAPOR INTRUSION INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAINE, OHIO**

<i>Sample Location:</i>			<i>Building 15 Outdoor Air 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_A 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_B 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_C 2031 Dryden Road 3/13/2012</i>
<i>Parameter</i>	<i>Units</i>	<i>ODH Indoor Air Screening Levels (Non-residential)</i>	<i>ODH Indoor Air Action Levels (Non-residential)</i>	<i>a</i>	<i>b</i>	
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	ppb	NC	NC	0.030 U	0.030 U	0.030 U
1,1,2,2-Tetrachloroethane	ppb	NC	NC	0.061 U	0.061 U	0.061 U
1,1,2-Trichloroethane	ppb	NC	NC	0.054 U	0.054 U	0.054 U
1,1-Dichloroethane	ppb	16	160	0.026 U	0.026 U	0.026 U
1,1-Dichloroethene	ppb	NC	NC	0.032 U	0.032 U	0.032 U
1,2,4-Trichlorobenzene	ppb	NC	NC	0.098 U	0.098 U	0.098 U
1,2,4-Trimethylbenzene	ppb	NC	NC	0.063 U	0.45	0.34
1,2-Dibromoethane (Ethylene dibromide)	ppb	NC	NC	0.044 U	0.044 U	0.044 U
1,2-Dichlorobenzene	ppb	NC	NC	0.070 U	0.070 U	0.070 U
1,2-Dichloroethane	ppb	NC	NC	0.047 U	0.047 U	0.047 U
1,2-Dichloroethene (total)	ppb	NC	NC	-	-	-
1,2-Dichloropropane	ppb	NC	NC	0.052 U	0.052 U	0.052 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	0.032 U	0.032 U	0.032 U
1,3,5-Trimethylbenzene	ppb	NC	NC	0.065 U	0.12 J	0.088 J
1,3-Butadiene	ppb	NC	NC	0.064 U	0.064 U	0.31 J
1,3-Dichlorobenzene	ppb	NC	NC	0.065 U	0.065 U	0.065 U
1,4-Dichlorobenzene	ppb	NC	NC	0.064 U	0.064 UJ	0.064 UJ
1,4-Dioxane	ppb	NC	NC	0.080 U	0.080 U	0.080 U
2,2,4-Trimethylpentane	ppb	NC	NC	0.039 U	0.055 J	0.039 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	0.38 J	0.85 J	0.57 J
2-Chlorotoluene	ppb	NC	NC	0.063 U	0.063 U	0.063 U
2-Hexanone	ppb	NC	NC	0.058 U	0.058 U	0.058 U
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	0.064 U	0.064 U	0.064 U
4-Ethyl toluene	ppb	NC	NC	0.066 U	0.33 J	0.13 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppb	NC	NC	0.045 U	3.7	11
Acetone	ppb	NC	NC	2.2 J	23	6.1
Allyl chloride	ppb	NC	NC	0.048 U	0.048 U	0.048 U
Benzene	ppb	2	20	0.068 J	0.46	0.51
Benzyl chloride	ppb	NC	NC	0.078 U	0.078 U	0.078 U
Bromodichloromethane	ppb	NC	NC	0.044 U	0.044 U	0.044 U
Bromoform	ppb	NC	NC	0.048 U	0.048 U	0.048 U
Bromomethane (Methyl bromide)	ppb	NC	NC	0.032 U	0.032 U	0.032 U
Butane	ppb	NC	NC	0.75	2.7 J	1.2 J
Carbon disulfide	ppb	NC	NC	0.031 U	0.088 J	0.095 J
Carbon tetrachloride	ppb	NC	NC	0.071 J	0.096 J	0.082 J
Chlorobenzene	ppb	NC	NC	0.049 U	0.049 U	0.049 U
Chlorodifluoromethane	ppb	NC	NC	0.49	0.94 J	0.97 J
Chloroethane	ppb	NC	NC	0.035 U	0.035 U	0.035 U
Chloroform (Trichloromethane)	ppb	80	800	0.038 U	0.077 J	0.038 U
Chloromethane (Methyl chloride)	ppb	NC	NC	0.60	1.1	0.81
cis-1,2-Dichloroethene	ppb	37	370	0.060 U	0.060 U	0.060 U
cis-1,3-Dichloropropene	ppb	NC	NC	0.074 U	0.074 U	0.074 U
Cyclohexane	ppb	NC	NC	0.040 U	0.33 J	0.13 J
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.057 U	0.057 U	0.057 U
Dibromochloromethane	ppb	NC	NC	0.042 U	0.042 U	0.042 U
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	0.41	0.56	0.54
Ethylbenzene	ppb	250	2500	0.068 U	0.15 J	0.12 J
Hexachlorobutadiene	ppb	NC	NC	0.078 U	0.078 U	0.078 U
Hexane	ppb	NC	NC	0.098 J	2.5	0.61

TABLE 2

**SUMMARY OF INDOOR AIR ANALYTICAL RESULTS  
BUILDING 15 - 2031 DRYDEN ROAD  
VAPOR INTRUSION INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAINE, OHIO**

<i>Sample Location:</i>			<i>Building 15 Outdoor Air 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_A 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_B 2031 Dryden Road 3/13/2012</i>	<i>Building 15, IA_C 2031 Dryden Road 3/13/2012</i>
<i>Parameter</i>	<i>Units</i>	<i>ODH Indoor Air Screening Levels (Non-residential)</i>	<i>ODH Indoor Air Action Levels (Non-residential)</i>	<i>a</i>	<i>b</i>	
Isopropyl alcohol	ppb	NC	NC	0.15 J	24	1.3 J
Isopropyl benzene	ppb	NC	NC	0.060 U	0.060 U	0.060 U
m&p-Xylenes	ppb	200	2000	0.12 U	0.52	0.43
Methyl methacrylate	ppb	NC	NC	0.079 U	0.079 U	0.079 U
Methyl tert butyl ether (MTBE)	ppb	NC	NC	0.17 U	0.17 U	0.17 U
Methylene chloride	ppb	NC	NC	0.17 J	0.31 J	0.29 J
Naphthalene	ppb	2.9	NC	0.090 U	0.25 J	0.090 U
N-Butylbenzene	ppb	NC	NC	0.046 U	0.068 J	0.046 U
N-Decane	ppb	NC	NC	-	-	-
N-Dodecane	ppb	NC	NC	-	-	-
N-Heptane	ppb	NC	NC	0.047 U	0.23 J	0.097 J
Nonane	ppb	NC	NC	-	-	-
N-Propylbenzene	ppb	NC	NC	0.056 U	0.056 U	0.056 U
N-Undecane	ppb	NC	NC	-	-	-
Octane	ppb	NC	NC	-	-	-
o-Xylene	ppb	200	2000	0.061 U	0.21	0.17 J
Pentane	ppb	NC	NC	-	-	-
Styrene	ppb	NC	NC	0.058 U	0.12 J	0.083 J
tert-Butyl alcohol	ppb	NC	NC	0.046 J	0.28 J	0.12 J
tert-Butylbenzene	ppb	NC	NC	0.066 U	0.066 U	0.066 U
Tetrachloroethene	ppb	25	250	0.040 U	0.84	1.4
Tetrahydrofuran	ppb	NC	NC	0.063 U	0.063 U	0.063 U
Toluene	ppb	NC	NC	0.16 J	3.6	1.3
trans-1,2-Dichloroethene	ppb	NC	NC	0.050 U	0.050 U	0.050 U
trans-1,3-Dichloropropene	ppb	NC	NC	0.048 U	0.048 U	0.048 U
Trichloroethene	ppb	2	20	0.036 U	5.2 <sup>a</sup>	0.13 J
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	0.20	0.35	0.24
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.060 J	0.090 J	0.078 J
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.035 U	0.035 U	0.035 U
Vinyl chloride	ppb	2	20	0.071 U	0.071 U	0.071 U
Xylenes (total)	ppb	NC	NC	-	-	-
<i>Gases</i>						
Methane	%	0.05	0.05	-	-	-
<i>Field Parameter</i>						
Methane, field (unfiltered)	%	0.05	0.05	-	-	-
Methane, field (filtered)	%	0.05	0.05	0.0 / 0.0	0.0 / 0.0	0.0 / 0.0

Notes:

J - The chemical was detected by the laboratory, the listed value is an approximate concentration

U - The chemical was not detected in the sample at the detection limit shown.

UJ - The chemical was not detected in the sample at the approximate detection limit shown.

NC - No criterion

-- Not applicable.

Concentration was greater than applicable criteria.